NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date: xx/xx/2020

Region: Raleigh Regional Office
County: Wilson
NC Facility ID: 9800043
Inspector's Name: Stanley Williams
Date of Last Inspection: 08/28/2018
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): Bridgestone Americas Tire Operations, LLC

Facility Address:
Bridgestone Americas Tire Operations, LLC
3001 Firestone Parkway NE
Wilson, NC 27893

SIC: 3011 / Tires And Inner Tubes
NAICS: 326211 / Tire Manufacturing (except Retreading)

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP: 15A NCAC 2D .0524
NSPS: Subparts IIII & Dc
NESHAP: N/A
PSD: 40 CFR §51.166(w)(10), 40 CFR §51.166(w)(5), 40 CFR §51.166(w)(3), 40 CFR §51.166(b)(47), 40 CFR §51.166(b), 15A NCAC 02D .0530
PSD Avoidance: 2Q .0317 of 2D .0530 (PSD Avoidance)
NC Toxics: (NCGS) 143-215.107(a)(5)
112(r): none
Other: none

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Tausha Fanslau Environmental Coordinator (252) 246-7485 PO Box 1139 Wilson, NC 27894+1139	Vergil Norrod BATO Wilson Plant Manager (252) 246-7766 PO Box 1139 Wilson, NC 27894+1139	Tausha Fanslau Environmental Coordinator (252) 246-7485 PO Box 1139 Wilson, NC 27894+1139

Application Data

Application Number: 9800043.19B
Date Received: 01/14/2019
Application Type: Modification
Application Schedule: TV-Significant

Existing Permit Data
Existing Permit Number: 01660/T72
Existing Permit Issue Date: 07/06/2018
Existing Permit Expiration Date: 05/31/2022

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2017	11.73	116.78	340.37	34.39	33.86	14.26	4.89 [MIBK (methyl isobutyl ketone)]
2016	1.63	117.09	363.63	34.80	32.57	14.56	4.99 [MIBK (methyl isobutyl ketone)]
2015	10.24	119.54	345.01	35.30	32.75	14.56	4.93 [MIBK (methyl isobutyl ketone)]
2014	2.24	136.10	373.22	40.53	33.53	14.98	5.10 [MIBK (methyl isobutyl ketone)]
2013	2.10	120.13	339.92	35.87	35.97	15.12	5.05 [MIBK (methyl isobutyl ketone)]

Review Engineer: Gautam Patnaik

Review Engineer's Signature: **Date:** xx/xx/2020

Comments / Recommendations:
Issue: 01660/T73
Permit Issue Date: xx/xx/2020
Permit Expiration Date: xx/xx/2019

I. Facility Description.

Bridgestone Americas Tire Operations, LLC (BATO) is a tire manufacturing plant producing tires for passenger vehicles. The process begins with conversion of raw materials such as carbon black, raw rubber, synthetic rubber and additives into tire components.

Layers of rubber are extruded onto layers of steel belting and polyester by a process called calendaring. In the tire room, the pieces are put together into what is called a green tire. The different tire components are then assembled into "green tires", which are then finished by curing in tire presses. The green tires are cured by putting it into a mold. Through a combination of compression and pressurizing, an internal bladder is filled with hot water, the tire is cured and the tread is formed. The tires then go to the final finish and final inspection where the tires are buffed, ground, painted, and labeled. The major steps of the process are:

- Carbon Black Unloading and Transfer,
- Dry Chemical Handling,
- Rubber Mixing,
- Milling,
- Calendaring,
- Extrusion,
- Tire Assembly,
- Tire Doping,
- Tire Curing,
- Paint Booths,
- Grinding and
- Final Inspection

Finally, the facility has a large storage area where finished tires are stored until they are shipped to the commerce market.

II. Purpose of Application

A. The facility initially submitted an application to obtain the renewal of their existing Actuals Plant-wide Applicability Limitation (PAL) for Volatile Organic Compounds. Also, included in the application was a modification request to develop a PAL for PM, PM_{10} and $PM_{2.5}$ in order to maximize its operational flexibility for the site.

B. Section 2.4 of the current permit is for the Actuals Plantwide Applicability Limitation (PAL) for VOC emissions for the facility wide operations.

   This Actuals PAL, was obtained to simplify compliance assurance, obtain operational flexibility, react quickly to market demand, and provide clarity for planning future modernization of the facility. This limit obtained in August 1, 2009 expires on July 31, 2019.

After numerous discussions with the facility, they agreed that it would be better to break up the renewal of the VOC PAL and the development of the PAL for PM, PM10, and PM2.5. On December 18th, 2019, DAQ received notification that the applicant wished to separate the request into two applications as follows:

A) The existing, renewal of their VOC PAL limit (Application # 9800043.19B, existing) and
B) Create a new PSD/PAL application for new PAL limits for PM, PM_{10} and $PM_{2.5}$ emissions (Application # 9800043.20A).

C) This facility also has in-house another application (Application # 9800043.19A) for a significant modification (TV-Sign-501(b)(2) Part II) of the permit. Section 2.6 of the current permit requires the applicant to file Title V application for sources as identified in application #s 9800043.15C, 9800043.17A and 9800043.18A. These applications were part of a 2Q .0504 (Part II) application modification. These sources are currently not covered by the permit shield described in General Condition R and are required to file a Title V Air Quality Permit application pursuant to 15A NCAC 2Q .0504 for these sources on or before 12 months after commencing operation. The draft permit for this application (Application # 9800043.19A) will be subject to a 30-day public and the 45-day EPA review period.

Though the current application (Application # 9800043.19B) will be subject to a 30-day public and the 45-day EPA review period, DAQ decided to keep the processing of these applications (Application # 9800043.20A and .19B), separate.

III. Regulatory Review

Renewal for Actuals Plant-wide Applicability Limitations (PAL) for VOC Emissions.

The facility first applied for the current VOC PAL limit in January of 2008 (Application # 9800043.08A and the corresponding Air Quality Permit # 01660T59 was issued in July 31, of 2009).

Since then the facility has added several sources under this PAL as listed in the table below:

Application #	**Air Quality Permit #**	**Sources Added**
9800043.09B	01660T60	Four Green Tire Dopers (ID Nos. GT-13, GT-14, GT-15, and GT-16)
9800043.11A	01660T63	Four Green Tire Dopers (ID Nos. GT-17, GT-18, GT-19, and GT-20)
9800043.15C	01660T69	New Banbury Mixing Line (Banbury 625), consisting of: - Banbury 625 charging (BC-5) controlled by fabric filter (DC-12), - Banbury 625 discharging (BD-5) controlled by fabric filter (DC-13) and - Banbury 625 slab cooling and handling (RM-5).
9800043.17A	01660T71	Tandem mixer (TM-1) and a slab cooling and dip tank area (RM-5). To support the Tandem mixing line added a material storage and handling system. Consisting of six identical silos (SI-1 to SI-6).
9800043.18A	01660T72	three peak shaving generators: diesel-fired peak shaving generators (2,145 kilowatts, each, EGDD-3, EGDD-4 and EGDD-5)

1. Procedure of VOC PAL Renewal

The requirements for renewing an existing PAL are coded in Section 40 CFR §51.166(w)(10). This regulation requires the DAQ to follow the procedures specified in 40 CFR §51.166(w)(5) "Public participation requirements for PALs" in approving any request to renew a PAL for a major stationary source, and to provide both the proposed PAL level and a written rationale for the proposed PAL level to the public for review and comments.

Application deadline

As per 40 CFR §51.166(w)(10)(ii), the facility shall submit a timely application to DAQ at least 6 months prior to, but not earlier than 18 months from, the date of permit expiration. This deadline for application submittal is to ensure that the permit will not expire before the permit is renewed.

The application to renew the VOC PAL limit was received on 01/14/2019 and the VOC PAL in the current permit (Air Quality Permit No. 01660T72) expires on July 31, 2019. Thus, the renewal application was received at least 6 months prior to expiration of the VOC PAL limit. Furthermore, in accordance with §51.166(w)(10)(ii), when the applicant "submits a complete application to renew the PAL within this time period, then the PAL shall continue to be effective until the revised permit with the renewed PAL is issued."

Renewal Application requirements
40 CFR §51.166(w)(10)(iii)(a): The information required in renewal application are as specified in 40 CFR §51.166(w)(3)(i) through (iii).

40 CFR §51.166(w)(10)(iii)(b): A proposed PAL level for the same pollutant (VOC)

40 CFR § 51.166(w)(10)(iii)(c): The sum of the potential to emit of all emissions units under the PAL (with supporting documentation).

40 CFR § 51.166(w)(10)(iii)(d): Any other information the applicant wishes DAQ to consider in determining the appropriate level for renewing the PAL.

As per the permit application requirements specified in 40 CFR §51.166(w)(3)(i) the applicant shall submit the following information:

- A list of all emissions units at the source designated as small, significant or major based on their potential to emit. In addition, the applicant shall "indicate which, if any, Federal or State applicable requirements, emission limitations, or work practices apply to each unit."

- The rules that these sources are subject to are well documented in the current permit and there is no changes to these applicable requirements, emission limitations, or work practices for all the sources.

- The calculation procedures that the major stationary source owner or operator proposes to use to convert the monitoring system data to monthly emissions and annual emissions based on a 12-month rolling total for each month as required by 40 CFR 51.166 (w)(13)(i).

Source designation is established in the Federal Register/Vol. 67, No. 251/Tuesday, December 31, 2002/Rules (page 80270):

1) Small emissions unit means an emissions unit that emits or has the potential to emit the PAL pollutant in an amount less than the significant level for that PAL pollutant,
2) Significant emissions unit means "an emissions unit that emits or has the potential to emit a PAL pollutant in an amount that is equal or greater than the significant level, and
3) Major emissions unit means any emissions unit that emits or has the potential to emit 100 tons per year or more of the PAL pollutant in an attainment area.

Wilson County is in attainment for all NSR Pollutants. The source category for VOC is mentioned in the table below:

Source Category	**PTE for VOC**
Small	< 40 tons
Significant emissions unit	≥ 40 but < 100
Major	> 100

List of sources designated as small, significant or major based on the potential to emit in order to comply with 51.166(w)(10)(iv)(c):

Emission Unit IDs	**Emission Unit Description**	**Pollutants Emitted**	**Source Designation Based on PTE**
BU-1	Carbon black railcar and truck receiving and storage silo.	VOC	Small
BT-1	Carbon black transfer from storage silo to transfer systems BT-2 and BT-4	VOC	Small
RCS-1	Chemical bin loading	VOC	Small
CW-1	Manual dry chemical weighing system from chemical bins	VOC	Small
RCS-2	Pigment bin loading and automated weighing system	VOC	Small
BT-2, BC-2, BD-2	Carbon black transfer from BT-1 to Banbury 622 mixer Banbury 622 charging Banbury 622 discharging	VOC	Small
BT-4, BC-4, BD-4	Carbon black transfer from BT-1 to Banbury 624 mixer Banbury 624 charging Banbury 624 discharging	VOC	Small
BC-4FM, BD-4FM	Banbury 624 remix and final mix charging Banbury 624 remix and final mix discharging	VOC	Small
BC-1, BD-1	Banbury 621 charging Banbury 621 final mix discharging area	VOC	Small
RMC-1	Rubber mill	VOC	Small
RMC-2	Rubber mill	VOC	Small
RMC-3	Rubber mill	VOC	Small
RMC-4	Rubber mill	VOC	Small

Emission Unit IDs	Emission Unit Description	Pollutants Emitted	Source Designation Based on PTE
RMC-5	Rubber mill	VOC	Small
RMC-6	Rubber mill	VOC	Small
RMC-7	Rubber mill	VOC	Small
RMC-8	Rubber mill	VOC	Small
RMC-9	Rubber mill	VOC	Small
RMC-10	Rubber mill	VOC	Small
RMC-11	Rubber mill	VOC	Small
RMT-1	Rubber mill with associated material recovery	VOC	Small
RMT-2	Rubber mill with associated material recovery	VOC	Small
RMT-3	Rubber mill with associated material recovery	VOC	Small
RMT-6	Rubber mill with associated material recovery	VOC	Small
RMT-7	Rubber mill with associated material recovery	VOC	Small
RMT-8	Rubber mill with associated material recovery	VOC	Small
RMT-9	Rubber mill with associated material recovery	VOC	Small
RMT-10	Rubber mill with associated material recovery	VOC	Small
RMT-11	Rubber mill with associated material recovery	VOC	Small
RMT-12	Rubber mill with associated material recovery	VOC	Small
RM-2	Banbury 621 slab dip tank and cooling	VOC	Small
RM-3	Banbury 622 slab dip tank and cooling	VOC	Small
BC-3	Banbury 273 charging	VOC	Small
BD-3	Banbury 273 discharging	VOC	Small
RM-6	Banbury 273 rubber mixing and slab cooling system	VOC	Small
CAL-1	One three-roll calendar and one four-roll calendar	VOC	Small
C-3	One four-roll calendar	VOC	Small
BCO-1	No. 1 bead cementing operation	VOC	Small
BCO-2	No. 2 bead cementing operation	VOC	Small
UT-1	No. 1 extrusion line undertread cementing utilizing an intermittent spray/wipe application method and associated thread marking equipment	VOC	Major
UT-2	No. 4 extrusion line undertread cementing	VOC	Significant
UT-3	No. 5 extrusion line undertread cementing	VOC	Significant
SW-4	Side wall cementing operation	VOC	Significant
TU-1	Six extrusion lines	VOC	Small
TU-2	One extrusion line	VOC	Small
TUC-3	One extrusion line	VOC	Small
TU-4	One extrusion line	VOC	Small
GT-10	Green tire dopers No. 10	VOC	Small
GT-11	Green tire dopers No. 11	VOC	Small
GT-12	Green tire dopers No. 12	VOC	Small
GT-13	Green tire dopers No. 13	VOC	Small
GT-14	Green tire dopers No. 14	VOC	Small

Emission Unit IDs	Emission Unit Description	Pollutants Emitted	Source Designation Based on PTE
GT-15	Green tire dopers No. 15	VOC	Small
GT-16	Green tire dopers No. 16	VOC	Small
GT-17	Green tire dopers No. 17	VOC	Small
GT-18	Green tire dopers No. 18	VOC	Small
GT-19	Green tire dopers No. 19	VOC	Small
GT-20	Green tire dopers No. 20	VOC	Small
GT-21	Green tire dopers No. 21	VOC	Small
GT-22	Green tire dopers No. 22	VOC	Small
GT-23	Green tire dopers No. 23	VOC	Small
GT-24	Green tire dopers No. 24	VOC	Small
CA-1	Curing area	VOC	Significant
CA-2	Curing area	VOC	Significant
CA-3	Curing area	VOC	Significant
CA-4	Curing area	VOC	Significant
PB-1	Minor-buff spray paint booth equipped with dry filters	VOC	Significant
PB-2	Minor-buff spray paint booth equipped with dry filters	VOC	Significant
PB-3	Minor-buff spray paint booth equipped with dry filters	VOC	Significant
PB-4	Minor-buff spray paint booth equipped with dry filters	VOC	Significant
PB-5	Minor-buff spray paint booth equipped with dry filters	VOC	Significant
PB-6	Minor-buff spray paint booth equipped with dry filters	VOC	Significant
PB-7	Minor-buff spray paint booth equipped with dry filters	VOC	Significant
GA-1	Sidewall and tread grinding area	VOC	Small
PW-1	Miscellaneous solvent usage	VOC	Small
TA-1	Tire assembly area	VOC	Small
FI-1	Final inspection area	VOC	Small
RCM-1	One rubber cement mixing system	VOC	Small
ST-1	10,000 gallon solvent storage tank	VOC	Small
ST-2	10,000 gallon solvent storage tank	VOC	Small
ST-3	10,000 gallon solvent storage tank	VOC	Small
ST-4	10,000 gallon solvent storage tank	VOC	Small
UA-1	Natural gas/No. 2 fuel oil/No. 6 fuel oil-fired boiler (121 million Btu per hour maximum heat input capacity)	VOC	Small
UA-2	Natural gas/No. 2 fuel oil/No. 6 fuel oil-fired boiler (121 million Btu per hour maximum heat input capacity)	VOC	Small
UA-T1	Temporary, back-up natural gas/No. 2 fuel oil-fired boiler(s) with a maximum permitted heat input rating of no greater than 100 million Btu per hour, total	VOC	Small
EGDD-1	Diesel-fired peak shaving generator (15.7 million Btu maximum heat input and 1600 kW output, 2300 Hp output)	VOC	Small

Emission Unit IDs	Emission Unit Description	Pollutants Emitted	Source Designation Based on PTE
EGDD-2	Diesel-fired peak shaving generator (15.7 million Btu maximum heat input and 1600 kW output, 2300 Hp output)	VOC	Small
ACDD-1	Diesel engine driven air compressor (4.46 million Btu per hour heat input and 625 Hp output)	VOC	Small
ACDD-2	Diesel engine driven air compressor (4.46 million Btu per hour heat input and 625 Hp output)	VOC	Small
ACDD-4	Diesel engine driven air compressor (4.46 million Btu per hour heat input and 625 Hp output)	VOC	Small
ACDD-3	Diesel engine driven air compressor (4.46 million Btu per hour heat input and 625 Hp output)	VOC	Small
ACDD-5	Diesel engine driven air compressors (4.46 million Btu per hour heat input and 625 Hp output)	VOC	Small
ES-4.5	Diesel-fired emergency fire pump engine (175 Hp output)	VOC	Small
ES-4.6	Diesel-fired emergency fire pump engine (175 Hp output)	VOC	Small
ES-1.1	Aromatic oil storage tank (15,000 gallon capacity)	VOC	Small
ES-1.2	Aromatic oil storage tank (15,000 gallon capacity)	VOC	Small
ES-2.1	Napthenic oil storage tank (15,000 gallon capacity)	VOC	Small
ES-2.2	Napthenic oil storage tank (15,000 gallon capacity)	VOC	Small
ES-3	One paraffin wax storage tank (15,000 gallon capacity)	VOC	Small
ES-5	Banbury 624 slab dip ventilation system	VOC	Small
ES-6	Spiral layer splicing operation	VOC	Small
ES-7	One fuel oil storage tank (6,000 gallon capacity)	VOC	Small
ES-8	One gasoline storage tank (1,000 gallon capacity)	VOC	Small
ES-10	One triplex sidewall extrusion line	VOC	Small
ES-11	No. 6 fuel oil storage tank (100,000 gallon capacity)	VOC	Small
ES-12	No. 6 fuel oil storage tank (100,000 gallon capacity)	VOC	Small
ES-13	One resin oil storage tank (15,000 gallon capacity)	VOC	Small
TM-1	Tandem mixer	VOC	Significant
RM-5	Tandem mixer slab cooling and handling	VOC	Small
SI-1	Silo with filter receiver	VOC	Small
SI-2	Silo with filter receiver	VOC	Small
SI-3	Silo with filter receiver	VOC	Small
SI-4	Silo with filter receiver	VOC	Small
SI-5	Silo with filter receiver	VOC	Small
SI-6	Silo with filter receiver	VOC	Small
EGDD-3	Diesel-fired peak shaving generator (2,145 kW output)	VOC	Small
EGDD-4	Diesel-fired peak shaving generator (2,145 kW output)	VOC	Small
EGDD-5	Diesel-fired peak shaving generator (2,145 kW output)	VOC	Small
IES-4.7	100 KW natural gas-fired emergency generator	VOC	Small
IES-4.8	130 KW propane-fired emergency generator	VOC	Small

List of VOCs emitting sources with their VOC emission factors, the basis of the emission factors, monitored parameters and their frequencies are listed in the table below:

Emission Unit ID	**Description/ Category**	**VOC Emission Factors**	**Basis**	**Monitored Parameter**
BC-1, BD-1, BT-2, BC-2, BD-2, BC-3, BD-3, BT-4, BC-4, BD-4, BC-4FM, BD-4FM	Branbury Mixing (Banbury 621, Banbury 622, Banbury 273), Branbury Mixing (Banbury 624)	Compound 1 (6.17E-05 lb/lb), Compound 2 (3.91E-05 lb/lb), Compound 4 (3.88E-05 lb/lb), Compound 5 (2.15E-04 lb/lb), Compound 6 (3.86E-05 lb/lb)	Emission factors from Development of Emission Factors for the Rubber Manufacturing Industry, by RMA, September 1996.	Rubber Throughput on a monthly basis
TM-1	Tandem Mixer			
RM-2, RM-3, RM-5, RM-6	Mixing/Slab Cooling			
RMC-1 to RMC-11, RMT-1 to RMT3, RMT-6 to RMT-12	Rubber Mixing	Compound 1 (8.99E-05 lb/lb), Compound 2 (1.10E-04 lb/lb), Compound 3 (1.13E-04 lb/lb), Compound 4 (8.37E-05 lb/lb), Compound 6 (5.64E-05 lb/lb)	Emission factors from Development of Emission Factors for the Rubber Manufacturing Industry, by RMA, September 1996.	Rubber Throughput on a monthly basis
CAL-1, C-3	Calendaring	Compound 1 (5.33E-05 lb/lb), Compound 2 (5.59E-05 lb/lb), Compound 3 (1.17E-04 lb/lb), Compound 4 (3.35E-05 lb/lb), Compound 5 (1.86E-04 lb/lb), Compound 6 (3.34E-05 lb/lb)	Emission factors from Development of Emission Factors for the Rubber Manufacturing Industry, by RMA, September 1996.	Rubber Throughput on a monthly basis
UT-1, UT-2, UT-3, TU-1, TU-2, TUC-3	Extrusion	Compound 4 (5.67E-06 lb/lb), Compound 5 (5.15E-05 lb/lb), Compound 6 (1.23E-05 lb/lb)	Emission factors for Tire Components from Development of Emission Factors for the Rubber Manufacturing Industry, by RMA, September 1996.	Rubber Throughput on a monthly basis
CA-1, CA-2, CA-3, CA-4	Tire Curing	Tire (2.71E-04 lb/lb), Tire Bladder (2.36E-04 lb/lb)	Emission factors are the average emission factors for OEM and High Performance Tires available in Development of Emission Factors for the Rubber Manufacturing Industry by RMA, 1999.	Rubber throughput on a monthly basis
GA-1	Grinding	Sidewall (0.0159 lb/lb), Tread (5.21E-04)	Emission factors from Development of Emission Factors for the Rubber Manufacturing Industry, by RMA, September 1996 for Carcass and Sidewall/White wall.	Rubber Throughput on a monthly basis

Emission Unit ID	Description/ Category	VOC Emission Factors	Basis	Monitored Parameter
UA-1, UA-2	Boilers	5.50 lb/MMscf (Natural Gas)	USEPA AP-42, Section 1.4	Natural gas usage on a monthly basis
		0.20 lb/Kgal (No.2 Fuel Oil)	USEPA AP-42, Section 1.3	No.2 fuel oil usage on a monthly basis
		0.28 lb/Kgal (No.6 Fuel Oil)	USEPA AP-42, Section 1.3	No.6 fuel oil usage on a monthly basis
UA-T1	Temporary Boiler	5.50 lb/MMscf	USEPA AP-42, Section 1.4	Natural gas usage on a monthly basis
EGDD1, EGDD2	Peak Shaving Generators	2.16 lb/hr	Manufacturer data	Operating hours on a monthly basis
EGDD3-EGDD5	Peak Shaving Generators	0.0246 lb/MMBtu	USEPA AP-42, Section 3.4	Operating hours on a monthly basis
ACDD1-ACDD4	Air Compressors	0.24 lb/hr	Manufacturer data	Operating hours on a monthly basis
ES-4.5, ES-4.6	Fire Pumps	0.57 lb/hr	Manufacturer data	Operating hours on a monthly basis
IES-4.7	Natural Gas fired Emergency Generator	0.38 lb/hr	Manufacturer data	Operating hours on a monthly basis
IES-4.8	Propane fired Emergency Generator	0.38 lb/hr	Manufacturer data	Operating hours on a monthly basis
SI-1 through SI-6	Six silos	5.35E-05 lb/lb	Manufacturer data	Material Usage on a monthly basis
Facility-wide VOC Material Usage		lb/lb Based on a mass balance of VOC content of material used. In some instances Usage and Waste rates may be tracked to calculated the amount of VOC emitted to the atmosphere.	Manufacturer data	Material Usage on a monthly basis

Per 40 CFR §51.166(w)(3)(ii), calculations of the baseline actual emissions (with supporting documentation) are required as part of the application for a PAL renewal. Baseline actual emissions are to include emissions associated not only with operation of the unit, but also emissions associated with startup, shutdown, and malfunction.

In accordance with 40 CFR §51.166(w)(3)(iii), the calculation procedures that the applicant proposes to use to convert the monitoring system data to monthly emissions and annual emissions based on a 12-month rolling total for each month are required as part of the application for a PAL renewal.

In accordance with the requirements of 40 CFR §51.166(b)(4), §51.166(b)(47)(ii) and 15A NCAC 02D .0530(b)(1), the applicant calculated the potential to emit (PTE) and the baseline emissions from existing sources using the time period from September 2015 to August 2017 as shown below:

VOC PTE and Baseline Actual Emissions (September 2015 to August 2017) from major existing sources (from Table B-6 of the application)

Unit Operation Group	VOC PTE (tons/yr)	VOC Baseline Actual Emissions (tons/yr)	Annual Throughput (from some significant sources) During Baseline Time Period (lb/yr)
Carbon Black	0.00	0.00	
Dry Chemical Mixing	0.43	0.01	
Rubber Mixing	186.38	124.18	(641,981,511 – Banburies 1 through 4) (641,981,511 - Mixing/Slab Cooling
Material Handling	0.51	-	
Milling	23.09	14.55	
Calendaring	7.11	4.16	
Extrusion	115.16	39.03	
Tire Doping	0.02	0.01	
Curing	109.92	73.10	269,239,138 (Tires)
Paint	67.78	50.45	37,161(paint) & 69,014 (solvent)
Grinding	2.83	1.21	
Plantwide Solvents	2.28	0.60	
Tire Assembly	16.14	8.10	
Final Inspection	37.82	24.38	
Rubber Cement Mixing	0.60	0.27	
Boilers	3.19	2.12	
Temporary Boiler	0.00	0.00	
Generators	3.92	0.50	
Total Baseline Emissions	**577.19**	**342.65**	

Note –
- The throughputs shown throughout the baseline emission calculation are the annual throughputs for September 2015 to August 2016 added to the throughput from September 2016 to August 2017 and divided by 2.

Sample calculation of VOC emissions from the Rubber Mixing (Table B-6 of the application and the table above):

Compound #1: annual throughput = 21,701,770 lbs/yr Emission factor: 6.17E-05 lb VOC/lb
Compound #2: annual throughput = 8,213,117 lbs/yr Emission factor: 3.91E-05 lb VOC/lb
Compound #3: annual throughput = 799,688 lbs/yr Emission factor: 1.36E-04 lb VOC/lb
Compound #4: annual throughput = 49,719,752 lbs/yr Emission factor: 3.88E-05 lb VOC/lb
Compound #5: annual throughput = 26,143,831 lbs/yr Emission factor: 2.15E-04 lb VOC/lb

Compound #6: annual throughput = 131,106,961 lbs/yr Emission factor: 3.86E-05 lb VOC/lb
Ethanol producing pigments (J39) = 74.47 lbs/yr Emission factor: 1.38E-01 lb VOC/lb
Ethanol producing pigments (J39) = 42.51 lbs/yr Emission factor: 1.38E-01 lb VOC/lb
Convert to tons/yr = 1 ton/2000 lbs

$$\sum_{j40}^{compound\ 1} annual\ throughput\ \left(\frac{lbs}{yr}\right) x\ emission\ factor\ \left(\frac{lbs\ VOCs}{lbs\ annual\ throughput}\right) x \frac{1\ ton\ VOC}{2000\ lbs\ VOCs}$$

Compound 1 sample: $\frac{21{,}701{,}770\ lbs\ throughput}{yr}\ x \frac{6.17E{-}05\ lbs\ VOCs}{throughput}\ x\ \frac{1\ ton\ \ VOCs}{2000\ lbs\ VOC} = \frac{0.67\ ton\ VOCs}{yr}$

$$\sum_{j40}^{compound\ 1} 0.67\ tpy + \ 0.16\ tpy + 0.05\ tpy + 0.96\ tpy + 2.81t\ py + 2.53\ tpy\ \ + 74.74\ tpy + 42.51\ tpy$$

$$= 124.18\ tpy\ VOCs$$

Potential to Emit for New Sources

The facility mentioned that a couple of units are new (less than 2 years of operational data). These are tandem mixer (TM-1), tandem mixer slab cooling and handling (RM-5) and the six silos (SI-1 through SI-6). These units were permitted during processing of Application # 9800043.17A with the Air Quality Permit 01660T71 issued on 12/6/2017.

The PTE for the six silos (SI-1 through SI-6) and the Tandem Mixing Line (TM-1 and RM-5) are calculated as mentioned below (from Table B-22 of the application):

Process Operation	**Annual Throughput (lb/yr)**	**Emission Factor (lb/lb)**	**Annual Emissions (tons/yr)**
Rubber Processing	289,080,000	2.15E-04	31.10
Mixing/Slab Cooling			
Tire Components			
Ethanol Producing Pigments	279,336	1.38E-01	19.27
Maximum Emissions from Tandem Mixing Line (**31.10** tpy from tire component + **19.27** tpy from ethanol producing pigments)			**50.37**
six silos (SI-1 through SI-6)	262,800,000	5.35E-05	**7.04**
Potential to Emit from New Sources			**57.41**

Below is a sample calculation from the Tandem Mixing Line to show how at least one of the values were achieved.

VOC Emissions sample Equation:

$$\sum_{tandem\ line}^{six\ silos} annual\ throughput\ \left(\frac{lbs}{yr}\right) x\ emission\ factor\ \left(\frac{lbs\ VOCs}{lbs\ annual\ throughput}\right) x \frac{1\ ton\ VOC}{2000\ lbs\ VOCs}$$

$$\sum_{tandem\ line}^{six\ silos} \frac{289{,}080{,}000\ lbs}{yr}\ x\ \frac{2.15E-4\ lbs\ VOCs}{lbs\ annual\ throughput}\ x \frac{1\ ton\ VOC}{2000\ lbs\ VOCs} = \frac{31.10\ tons\ VOC}{yr}$$

40 CFR §51.166(w)(10)(iv) requires DAQ to follow options in 40 CFR §51.166(w)(10)(iv)(a) and (b) in adjusting the PAL level for the pollutant. However, in no case may any such adjustment **fail to comply with** §51.166(w)(10)(iv)(c).

- 40 CFR §51.166(w)(10)(iv)(a): If the emissions level calculated in accordance with 40 CFR §51.166(w)(6) is equal to or greater than 80 percent of the PAL level, DAQ **may renew** the PAL at the same level without considering other factors.

- 40 CFR §51.166(w)(10)(iv)(b): DAQ **may set the PAL at a level** that it determines to be more representative of the source's baseline actual emissions, or that it determines to be appropriate considering air quality needs, advances in control technology, anticipated economic growth in the area, desire to reward or encourage the source's voluntary emissions reductions, or other factors as specifically identified by the DAQ in its written rationale.

- 40 CFR §51.166(w)(10)(iv)(c)(1) & (2): Notwithstanding the above two options (40 CFR §51.166(w)(10)(iv) (a) and (b)) if the (true) potential to emit (based on physical limitations and not on any limit in the permit) of the major stationary source is less than the PAL, the DAQ shall adjust the PAL to a level no greater than the potential to emit of the source or the current PAL, whichever is lower.

Per 15A NCAC 02D .0530(i) in the DAQ's State Implementation Plan rules, the option per 40 CFR §51.166(w)(10)(iv)(a), which specifically states "the Director **shall renew** the PAL at the same level", but 40 CFR 51.166(w)(10)(iv)(b) is not incorporated by reference into the DAQ's State Implementation Plan. Therefore, 15A NCAC 02D .0530 rules out the option listed in 40 CFR 51.166(w)(10)(iv)(b), above.

Also, as per 15A NCAC 02D .0530(v) "Portions of the regulations in the Code of Federal Regulations (CFR) that are referred to in this Rule" are incorporated by reference unless a specific reference states otherwise. The version of the CFR incorporated in North Carolina's SIP, with respect to 40 CFR 51.166, is that as of **July 1, 2014**.

A proposed PAL level for VOC Emissions

As per 40 CFR §40 CFR 51.166(w)(10)(iii)(b) the applicant shall submit a proposed PAL level during renewal.

The facility is proposing to keep the existing PAL level of 505 tons of VOC per year. This is based on meeting the requirements of 40 CFR §51.166(w)(10)(iv)(a) and 15A NCAC 02D .0530(i).

In determining how to adjust the PAL, DAQ shall consider the options outlined in 40 CFR §51.166(w)(10)(iv)(a) and (b) and as per 40 CFR §51.166(w)(10)(iv)(a) "if the emissions level calculated in accordance with paragraph (w)(6) of this section is equal to or greater than 80 percent of the PAL level, the reviewing authority **may renew** the PAL at the same level without considering the factors set forth in paragraph (w)(10)(iv)(*b*) of this section." Also, according to 15A NCAC 02D .0530(i), the DAQ Director **shall renew** the PAL at the same level.

The facility meets the emission test in 40 CFR §51.166(w)(10)(iv)(a) where emissions calculated in accordance with 40 CFR §51.166(w)(6) are greater than 80% of the current PAL level.

Total Emissions for VOC PAL as Calculated According to 40 CFR §51.166(w)(6)

Emission Category	**VOC Emissions (tons/yr)**	**Notes**	**Regulation for Inclusion in 40 CFR §51.166(w)(6) Calculation**
Sum of Baseline Actual Emissions from Existing Emission Units	342.65	Baseline Period Sep 2015 to Aug 2017.	40 CFR §51.166(w)(6)(i)
VOC PSD Significance Threshold	40	Significance Rate found in 40 CFR §51.166(b)(23)(1)	40 CFR §51.166(w)(6)(i)
Emissions from Units Shutdown After Baseline Actual Period	0	No units have been shut down after Baseline Period	40 CFR §51.166(w)(6)(i)
Reduction in PAL due to future applicable standards	0	No new rules that would reduce PTE	40 CFR §51.166(w)(6)(i)
Addition of PTE of new units with less than 2 years of operational data. (TM-1, RM-5, SI-1 through SI-6)	57.41	Meets definition of "New Unit" according to EPA Policy memo. PTE number taken from Tandem Mixer Application.	40 CFR §51.166(w)(6)(ii)
Emission Level Calculated According to CFR §51.166(w) Procedures	440.06		

Emission Category	VOC Emissions (tons/yr)	Notes	Regulation for Inclusion in 40 CFR §51.166(w)(6) Calculation
80% of Current VOC PAL Level	404	Current PAL Level is 505 tpy of VOC	

Does Emission Level Calculated exceed 80% of Current PAL Level?	Yes	Qualify for Renewing PAL at Current Level	40 CFR §51.166(w)(10)(iv)(a) and 15A NCAC 02D .0530 (i)

PAL VOC emissions limits

Based on meeting the conditions of 40 CFR §51.166(w)(10)(iv)(a) and the condition in 15A NCAC 02D .0530(i), The facility has demonstrated the appropriateness of setting the renewal VOC PAL at the current 505 tons per year level. Thus, there will be no change in the Actuals VOC PAL limit (Tons Per Rolling 12-Months, Section 2.4 A. j., though s., of the permit).

The Effective and Expiration Date of VOC PAL

Once the Air Quality Permit No. 01660T73 is issued the effective and expiration date of VOC PAL in the Section 2.4 A., (table) will be adjusted such that the PAL permit does not exceed 10 years from the effective date.

Testing Monitoring/Recordkeeping Reporting

There is no change to the testing, monitoring, record keeping and reporting requirements (Section 2.4 A., of the permit) including monthly calculation of VOC emissions for ethanol producing pigment processes using the emission factors included in the March 16, 2009 confidential information letter (Section 2.4 A. p., of the permit).

IV. NSPS, NESHAPS/MACT, PSD avoidance, Attainment Status, 12(r), Air Toxics (NCGS) 143-215.107(a)(5) (House Bill 952), CAM and Compliance Status:

NSPS

Sources at this facility are subject to NSPS Subpart BBB "The Rubber Tire Manufacturing Industry," NSPS Subpart Dc, and NSPS Subpart IIII "Stationary Compression Ignition Engines." The PAL renewal does not affect these regulations.

NESHAP/MACT

The facility has taken a federally enforceable limit as per the current permit to become a minor source for HAP emissions and thus exempted from the "Rubber Tire Manufacturing" MACT. The PAL renewal does not affect this regulation.

Attainment Status and PSD avoidance

To avoid the applicability of 15A NCAC 2D .0530, "Prevention of Significant Deterioration," the temporary, back-up natural gas/No. 2 fuel oil-fired boiler with a maximum permitted heat input rating of no greater than 100 million Btu per hour (ID No. UA-T1) is subject to the annual emissions limit for the pollutants as mentioned in the table below:

Pollutant	**Emission Limit (tons per year)**
Particulate (TSP)	25
PM_{10}	15
Sulfur dioxide	40
Carbon monoxide	100
Nitrogen oxides	40

This PAL renewal does not change the emissions limit for the above source.

This facility is located in Wilson County, which is currently designated as an attainment area. The minor baseline dates for this County has been triggered for PM_{10}, SO_2 and NO_x emissions.

The PAL renewal does not increase the hourly emissions of these pollutants.

112(r)

This facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the thresholds in this rule.

CAM

The Compliance Assurance Monitoring (CAM) Rule (40 CFR Part 64) applies to pollutant-specific emissions units (PSEU) that are pre-control major sources and use a control device to comply with an emissions limit. None of the sources at this facility is subject to a CAM plan.

Compliance with Toxics - (NCGS) 143-215.107(a)(5) (House Bill 952)

The current permit subjects individual sources to certain emission limits for compliance with toxic air pollutant (Section 2.2 A. 4., of the current permit) emissions. This PAL renewal will not increase any toxic air pollutant emissions to the environment and will not present an unacceptable risk to human health in accordance with North Carolina General Statute (NCGS) 143-215.107(a)(5) (House Bill 952).

Compliance Status

Mr. Stanley Williams of the Raleigh Regional Office on his inspection report done on 09/24/2019 noted "Bridgestone appeared to be operating in compliance with all permit requirements."

V. Consistency Determination, Comments, and Recommendations

A zoning consistency determination is not required for this PAL renewal.

A professional engineer's seal is not required for this PAL renewal.

The Regional Office, the applicant, and the SSCB (Stationary Source Compliance Branch) were provided a copy of the modified draft permit for this application for their comments and their comments were taken into consideration.

The SSCB did not have any comments

The Regional Office on 3/4/2020 mentioned a few comments and on 3/6/2020 in a phone discussion with Ms. Dena Pittman, Raleigh Regional Office Permitting Coordinator most of these comments did not pertain to this PAL renewal and would be handled during the in-house application (Application # 9800043.19A) for a significant modification.

VI. Miscellaneous

- The responsible official in the draft permit matches the information on IBEAM.
- The facility address matches the information on IBEAM.
- There are no new insignificant activities being added with this renewal.
- Every instance of the word "assure" has been changed to "ensure" in the modified permit.
- Removed all references from the bottom of the permitted sources table (Section 2.4 A. "VOC emissions limits" that no longer apply.
- Removed word "Subpart" from the permit sources table (i.e., NSPS Subpart IIII, etc.,).
- Updated General Conditions.

VIII. Permit Modification/Changes

Table of changes made in Air Quality Permit No. 01660T72

Page(s)	Section	Description of Change(s)
Cover letter		Change in name of Responsible Officer for this facility
3 through 6	Permitted emission sources and associated air pollution control devices table	Removed word "Subpart" from the permit sources table
66	2.4 A.	Changed the effective and expiration date of the VOC PAL
74 through 83	General Conditions	Updated to current revision